



*wi4 Mesh*

# MOTOMESH™ Duo

Two Radio Meshed WiFi Network with 5.4GHz for Backhaul



#### Dynamic Frequency Selection (DFS)

MOTOMESH Duo supports the mandated DFS required for operation in European regions and Australia. DFS is a radar avoidance protocol that upon detection of an interfering radar signal, will automatically switch to an alternate channel to avoid interference with the military, medical, or weather devices. Transmit Power Control (TPC) reduces the radio-frequency (RF) output power to a level that minimizes the risk of interference.

#### Software Highlights

The MOTOMESH Duo solution offers a multitude of software features for enhancing your network experience. With Peer-to-Peer Communication Blocking ISPs (Internet Service Providers) now have an effective way to manage billing applications and client tracking scenarios. With the combination of Duo's VLAN support and standard 802.11e QoS, ISPs can create differentiated services that will allow them to offer tiered packages. Finally, historical, comprehensive statistics are now available for future reference and review.

#### MOTOMESH Product Advantage

The MOTOMESH product series makes wireless cities a reality with robust and future-proof wireless broadband technologies. Whether providing wireless access to a campus, business, neighborhood or city, MOTOMESH delivers real-time data to your residents, employees, and customers, enabling vital wireless broadband applications.

#### Single or Dual-Radio Operation

MOTOMESH Duo easily functions as a single or a two radio system. The two radio system utilizes the 5.4GHz radio to mesh backhaul, freeing up the 2.4GHz radio for dedicated client access. This notably increases throughput over single-radio systems. Moreover, the 5.4 GHz radio can also be configured to provide client access supporting WiFi subscriber stations using the 802.11a standard.

#### Proven Mesh Routing

MOTOMESH Duo leverages MeshConnex™ routing technology, using real-time congestion management and link control to automatically select the best data route on a per-request basis. This dramatically reduces hop latency, to better deliver real-time voice and multimedia services. Today, MeshConnex powers large-scale Motorola mesh networks of more than 1,000 nodes.

#### Carrier-Class Security

MOTOMESH Duo supports complete end-to-end security. It provides WEP, WPA and WPA2 encryption on client access. Motorola's own Secure Mesh ensures the highest data security within the meshed WiFi network. Finally, users can create access lists that can block particular clients from accessing the network.

#### Compact Form Factor

The small profile, light weight form factor, and slim-line aesthetics increase mounting location flexibility and community acceptance.

#### Advanced Network Management

MOTOMESH Duo utilizes Motorola's One Point Wireless Manager to manage and visualize a multitude of capabilities for small to large networks and all of these capabilities are controllable from a single suite of software. By completing one profile, a large number of devices can be configured easily, reducing the time required to provision individual devices and complete on-going adjustments. Once the network is up and running, the Wireless Manager is a flexible and powerful tool that monitors the health of the network's components for quick detection and resolution of problems that can impact network performance and user satisfaction.

#### Flexible & Adaptable Gateways

Every MOTOMESH Duo unit is capable of being an Intelligent Access Point (IAP) or Mesh Wireless Router (MWR), reducing the cost of storing excess inventory and simplifying deployment. Additionally, IAPs immediately adapt to backhaul loss by becoming wireless routers, routing traffic to an alternate gateway in the network. This automatic, self-healing ability minimizes service interruptions and ensures continuous connectivity.

#### Quality of Service (QoS)

Delay-sensitive applications like video and voice services require different data priorities. MOTOMESH Duo supports IEEE 802.11e based traffic prioritization. It constantly monitors node congestion, and automatically tunes its QoS parameters to optimize route selections, to support latency sensitive applications.

#### Motorola, Your End-to-End Solution Provider

Motorola's wireless broadband portfolio offers an array of access and backhaul technologies for complete end-to-end wireless initiatives. Motorola's Fixed Point-to-Multipoint and Point-to-Point solutions provide reliable, high-capacity Internet backhaul links to Motorola's mesh networks. MeshPlanner and MeshScanner enable detailed network planning and optimization capabilities. Additionally, Motorola's ecosystem of applications offers a wide range of validated solutions to garner multiple benefits from your wireless network.

## SPECIFICATION SHEET

MOTOMESH Duo  
Two Radio Meshed WiFi Network  
with 5.4GHz for Backhaul

### Benefits

- Best-in-class radio performance
- Reliable coverage
- Best-in-class throughput
- Robust security

### MOTOwi4

MOTOMESH Duo is part of the MOTOwi4 family of broadband access technologies, a comprehensive platform of wireless broadband solutions, applications and services. Designed to complement and complete wireless networks, MOTOwi4 solutions address a broad range of applications across municipal, enterprise, and operator segments. The comprehensive MOTOwi4 portfolio creates a true end-to-end ecosystem of complementary products, services and solutions that provide high speed connectivity enabling a broad range of applications in fixed, nomadic, portable or mobile environments. Working together, wi4 Mesh solutions combined with other MOTOwi4 access technologies deliver ubiquitous, metro-wide (community-wide, campus-wide) wireless broadband coverage.

### Why Motorola

Motorola is uniquely positioned to address the wireless broadband market through the MOTOwi4 vision. Motorola has aligned its business units and roadmaps to provide a comprehensive, end-to-end solution covering all aspects of the broadband wireless access deployment. With our deep and extensive patent portfolio, over a decade of R&D investment, and our experience as a global supplier of broadband wireless access solutions, Motorola is primed to deliver its best in class wireless networks. Motorola is committed to leading the industry with end-to-end wi4 Mesh solutions addressing the full scope of the operator's deployment needs including access, core, devices, network management and services.

## MOTOMESH DUO • 4300-54 RADIO CHARACTERISTICS

|                                      |  |
|--------------------------------------|--|
| IEEE 802.11b/g Radio (20MHz Channel) | 2.400 to 2.483GHz  |
| IEEE 802.11a Radio (20MHz Channel)   | 5.470 to 5.725GHz  |
| RF Modulation                        | CCK (802.11b), OFDM (802.11a/g)  |
| Transmit Power (Maximum)             | 31dBm EIRP (802.11b/g), 34 dBm EIRP (802.11a) • Settable in 1dB increments   |
| Receive Sensitivity                  | <b>802.11b:</b> -92dBm @ 11 Mbps to -100dBm @ 1 Mbps<br><b>802.11g:</b> -78dBm @ 54 Mbps to -95dBm @ 6 Mbps<br><b>802.11a:</b> -77dBm @ 54 Mbps to -93dBm @ 6 Mbps |
| Antenna Type                         | N-Type • Two (2) omnidirectional: 8dBi for 2.4GHz and 10dbi for 5.4GHz   |

## ROUTING

|            |   |
|------------|---|
| Technology | MeshConnex routing with Layer 1 situational-awareness |
| Protocol   | Patented, Layer 2, hybrid proactive/reactive routing  |

## NETWORK

|                             |   |
|-----------------------------|---|
| Network Management Software | EMS on Linux OS via SNMPv1, SNMPv2c or secure SNMPv3 • Web Interface via HTTPS (SSL) • 802.11 and MOTOMESH MIBs |
| Network Interface           | Weatherized 10/100 Base-T Ethernet (RJ-45) port with surge suppression  |
| Network Segmentation        | 16 VAPs (Multiple SSIDs with VLAN mapping)  |
| Quality of Service (QoS)    | 802.11e, weighted fair queuing and IP precedence bits (ToS) supported via DSCP                                  |

## SECURITY

|                           |  |
|---------------------------|--|
| Client Encryption Support | WEP, WPA (TKIP) and WPA2 (AES, 802.11i)                                |
| Intra-Mesh Encryption     | SecureMesh with AES  |
| Authentication            | 802.1X (Infrastructure/Client) and MAC address hardware authentication |
| TCP/IP Filtering          | Broadcast storm and port filtering                                     |

## POWER

|                           |  |
|---------------------------|--|
| Power Input               | 90-264 VAC (with +/- 20% variation at 47-63Hz) or Optional 10.8-14VDC (2.5A Max) |
| Power Connector           | Weatherized NEMA 5-15 power cord • 3.66m (12 ft)                                 |
| Power Consumption         | 15W to 30W (with PoE device)   |
| Power over Ethernet (PoE) | Support for Canopy PoE, or 802.3af Standard PoE device                           |

## PHYSICAL

|            |  |
|------------|--|
| Dimensions | 23.1cm x 15.2cm x 8.9cm (9" x 6" x 3.5") • 3097cm <sup>3</sup> (189in <sup>3</sup> ) |
| Weight     | 2.04kg (4.5 lbs)   |
| Packaging  | Outdoor, all-weather enclosure (NEMA 4 / IP54)                                       |
| Mounting   | 7.62cm (3") diameter post mounting   |

## ENVIRONMENTAL & REGULATORY

|                             |  |
|-----------------------------|--|
| Temperature Range           | -30 to 60 °C (-22 to 140 °F)   |
| Humidity                    | 0 to 95%, non-condensing at 50 °C (122 °F)                               |
| Regulatory Certifications   | FCC Part 15, CE, MET Mark / CSA / UL, RoHS / CMM / WEEE, Industry Canada |
| Dynamic Frequency Selection | ETSI Standard EN301 893  |

## AVAILABLE OPTIONS & ACCESSORIES

|                                    |  |
|------------------------------------|--|
| Mounting                           | Lamp post mount bracket assembly                             |
| Antennas                           | 4 or 6dBi omnidirectional for 2.4GHz                         |
| Power Plug Adapters                | AC photo cell adapter and US, EU, and AU Power Plug Adapters |
| Power over Ethernet (PoE) Adapters | Canopy Connect or IEEE 802.3af PoE                           |

## ONE YEAR PARTS & LABOR WARRANTY



**MOTOROLA**

Motorola, Inc. [www.motorola.com/mesh](http://www.motorola.com/mesh)

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